

Final Discharge to Existing Stream

Aerial Photo 1



Full Alignment of final discharge



View A(i). Existing discharge point from proposed site



View A(ii). Existing discharge point from proposed site



View B(i). Underground pipe and Existing 1m x 1m open channel (inaccessible area)



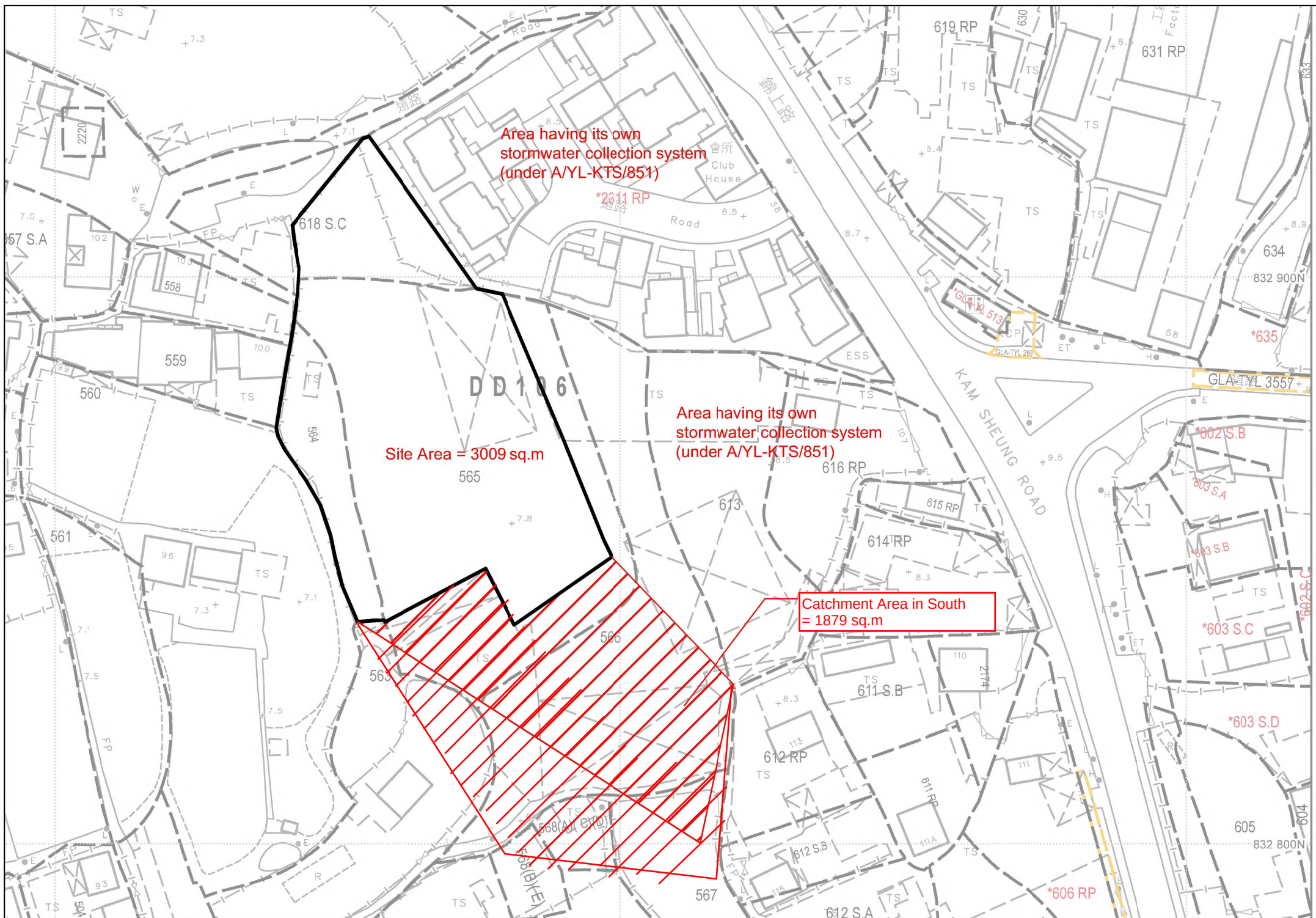
View B(ii). Underground channel outlet

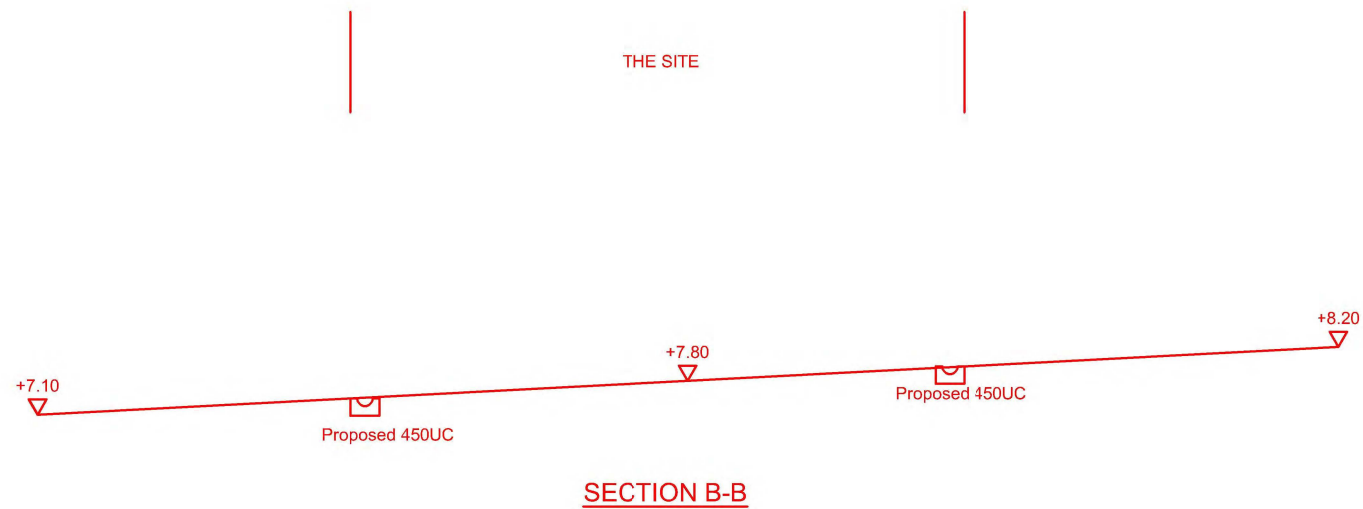
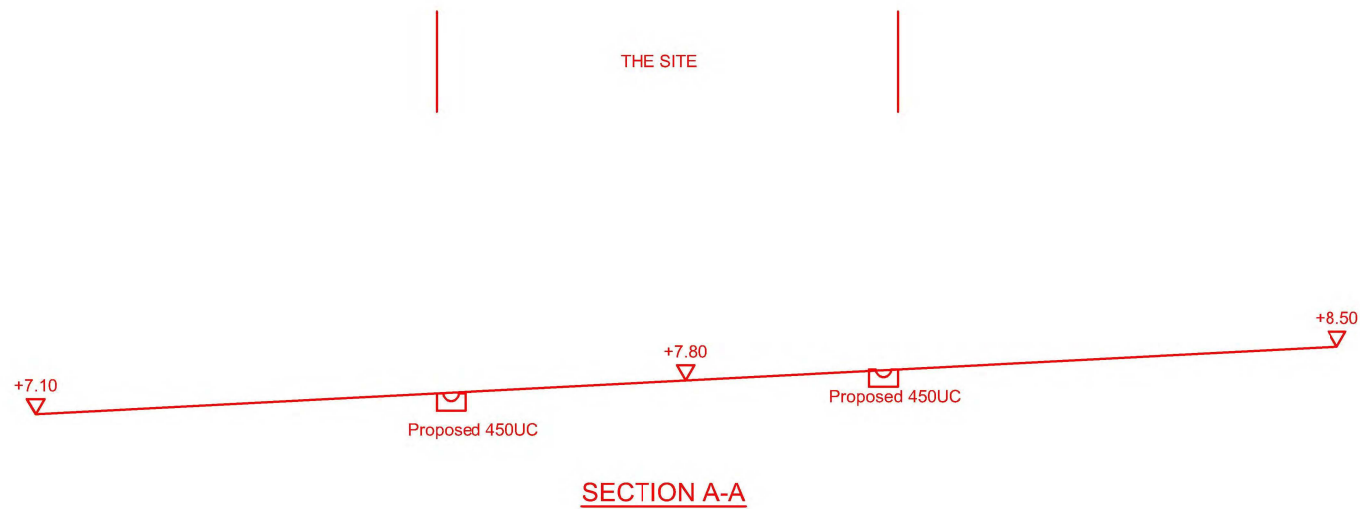


View C. Final Discharge Point



Aerial Photo 1: Full Discharge path





LEGEND

- CP Proposed CatchPit
- (a) Proposed 450UC (1:100) with Cast Iron Cover
- (c) Existing 450UC

Total Area = 3009+1538 sq.m.
= 4547sq.m.

$$Q = 0.278 \times 0.95 \times 250 \times \frac{4547}{1000000}$$

$$= 0.300 \text{ m}^3/\text{hr}$$

$$= 18013 \text{ lit/min}$$

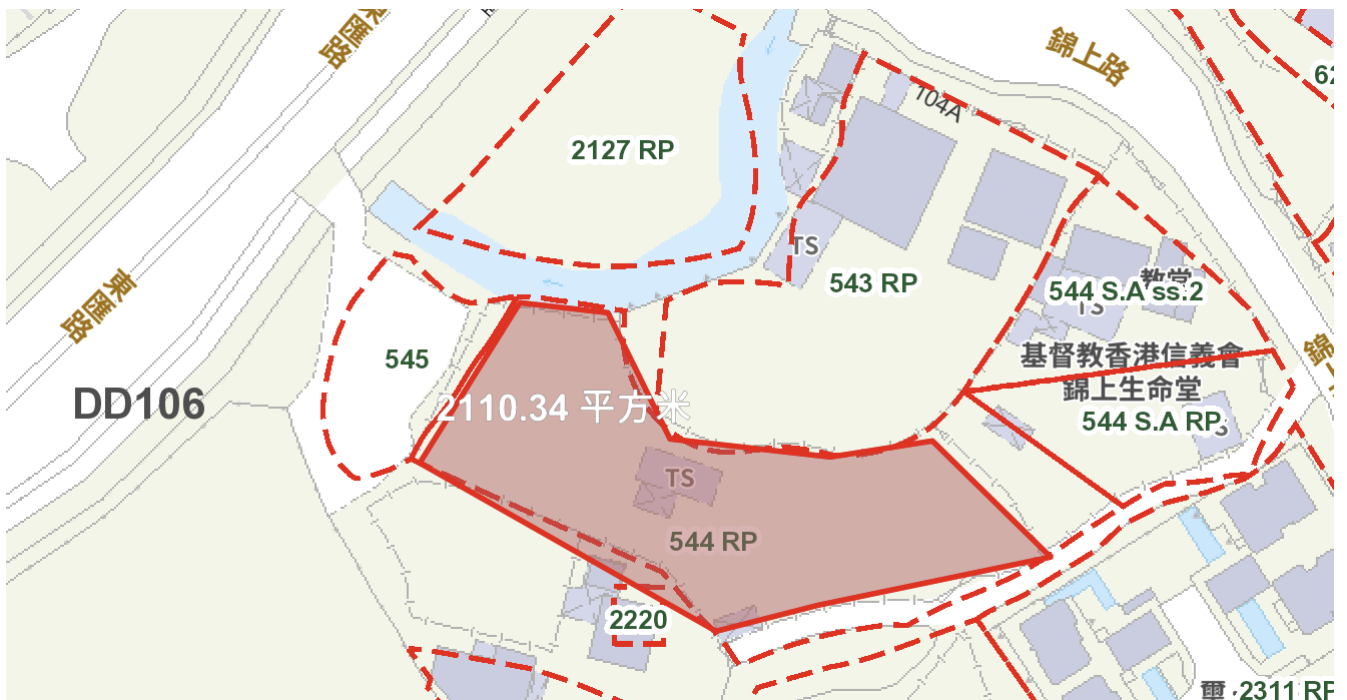
Provide 450UC(1:100) is OK

PROPOSED TEMPORARY SHOP AND SERVICES (VEHICLE SHOWROOM) FOR A PERIOD OF 3 YEARS

VARIOUS LOTS IN D.D. 106, KAM SHEUNG ROAD, YUEN LONG, NEW TERRITORIES (A/YL-KTS/956)

DATE: 6-8-2023

SECTIONS



Total Area = 2110m²

Coefficient of surface runoff = 0.95

For existing 1m x 1m open channel,

Catchment area = 2110+4547 = 6657 m²

$$Q = 0.278 C i A = 0.278(250)(0.95)(6657 \times 10^{-6})(3600) = 26371 \text{ liter/min} = 0.44 \text{ m}^3/\text{hr}$$

For checking 1m x 1m open channel,

By Manning's equation,

$$Q = \frac{1}{n} \frac{A^{5/3}}{P^{2/3}} S_0^{1/2} \quad \text{where} \quad n = 0.015$$

$$S_0 = 0.001$$

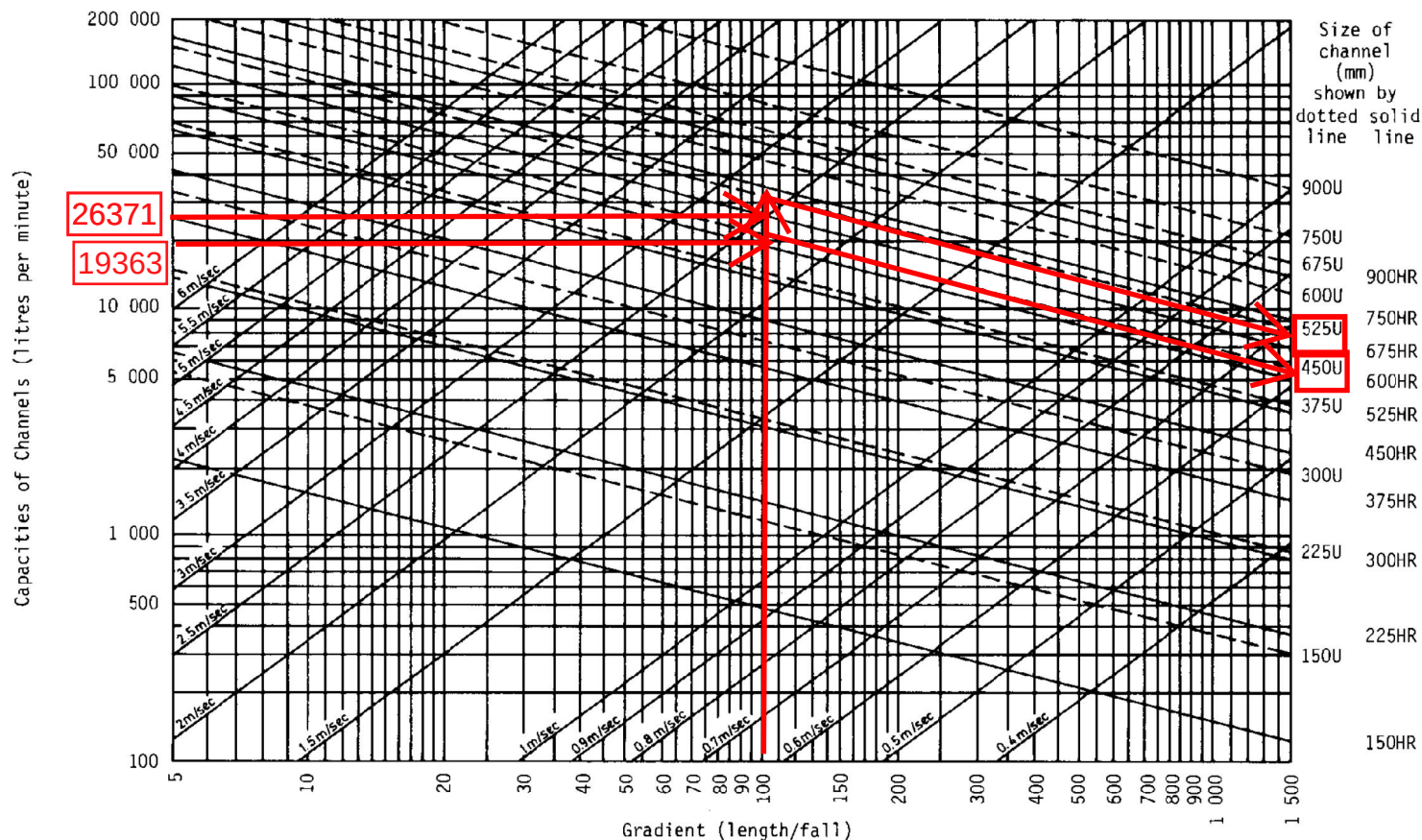
$$A = 1\text{m}^2$$

$$S = 3\text{m}$$

$$Q = 1/(0.015) \times (1)^{(5/3)} / (3)^{(2/3)} \times (0.001)^{0.5}$$

$$= 1.01 \text{ m}^3/\text{hr}$$

$$> 0.44\text{m}^3/\text{hr} \text{ OK!}$$



DESIGN METHOD USING CHART

(a) Normal channel Solution

1. Runoff
2. Gradient
3. Channel size
4. Velocity

Example :

1. Enter Runoff = 4 000 litre/min.
2. Enter Gradient = 1 in 40
3. Read channel required = 225 U or 300HR
4. Read velocity = 2.2 m/sec. (<4 m/sec. ∴ OK)

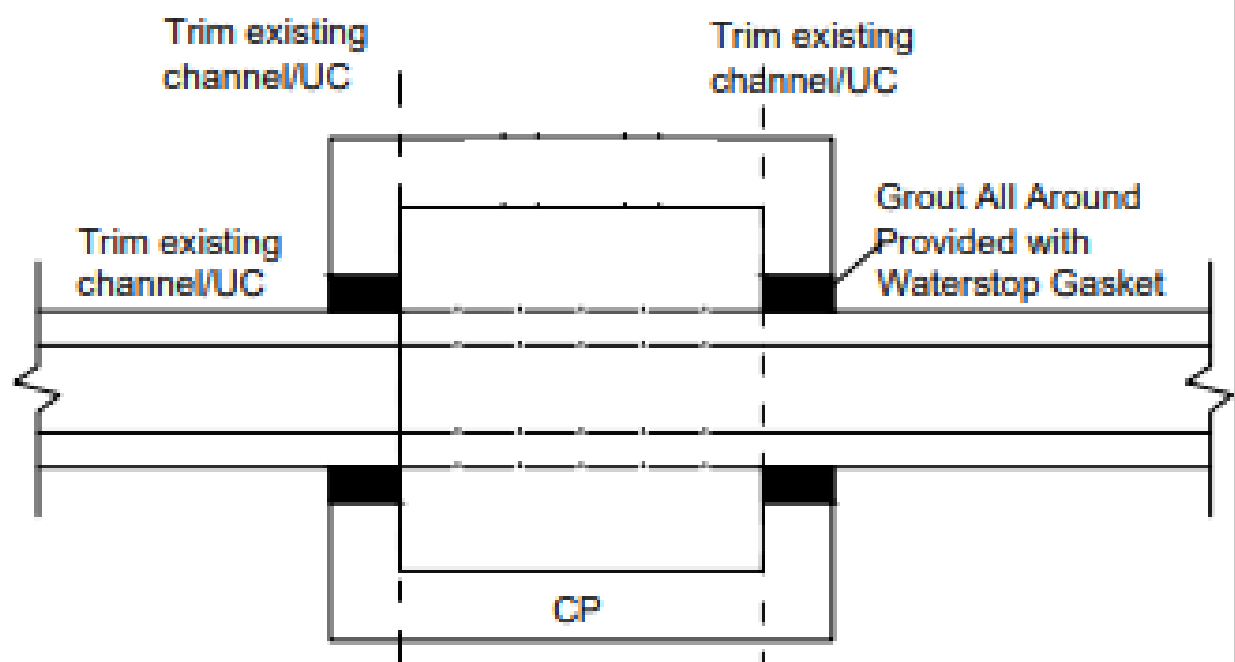
(b) Stepped channel Solution

2. Runoff
3. Channel size
4. Gradient
1. Velocity

Example :

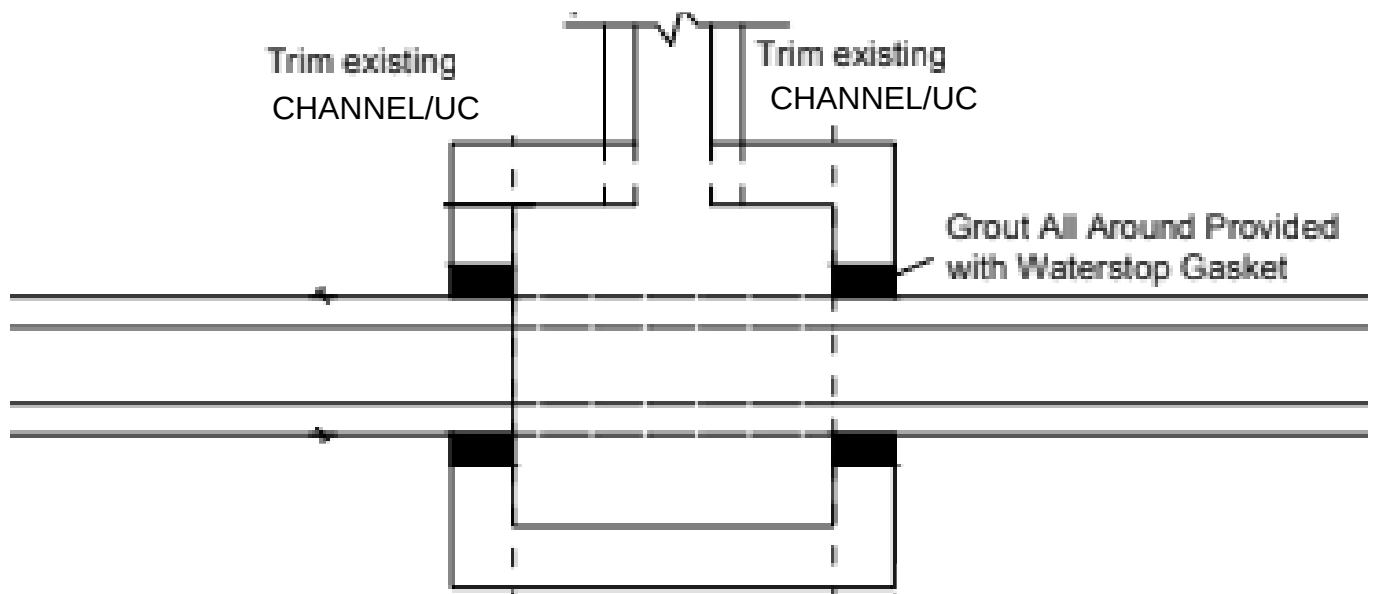
1. Enter Velocity = 5 m/sec.
2. Enter Runoff = 20 000 litre/min.
3. Read required channel size = 300U
4. Read required gradient = 1 in 14

Figure 8.7 - Chart for the Rapid Design of Channels

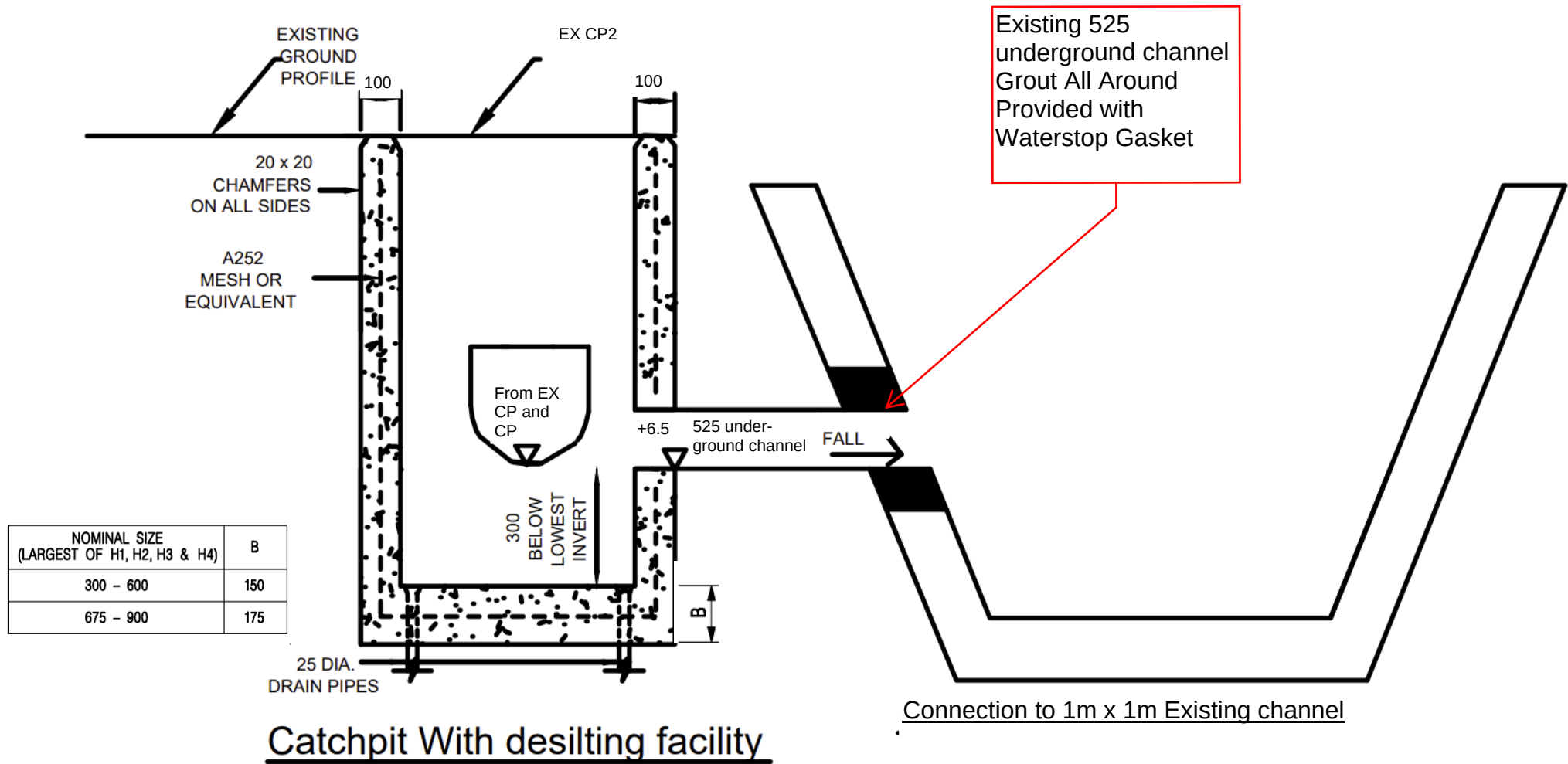


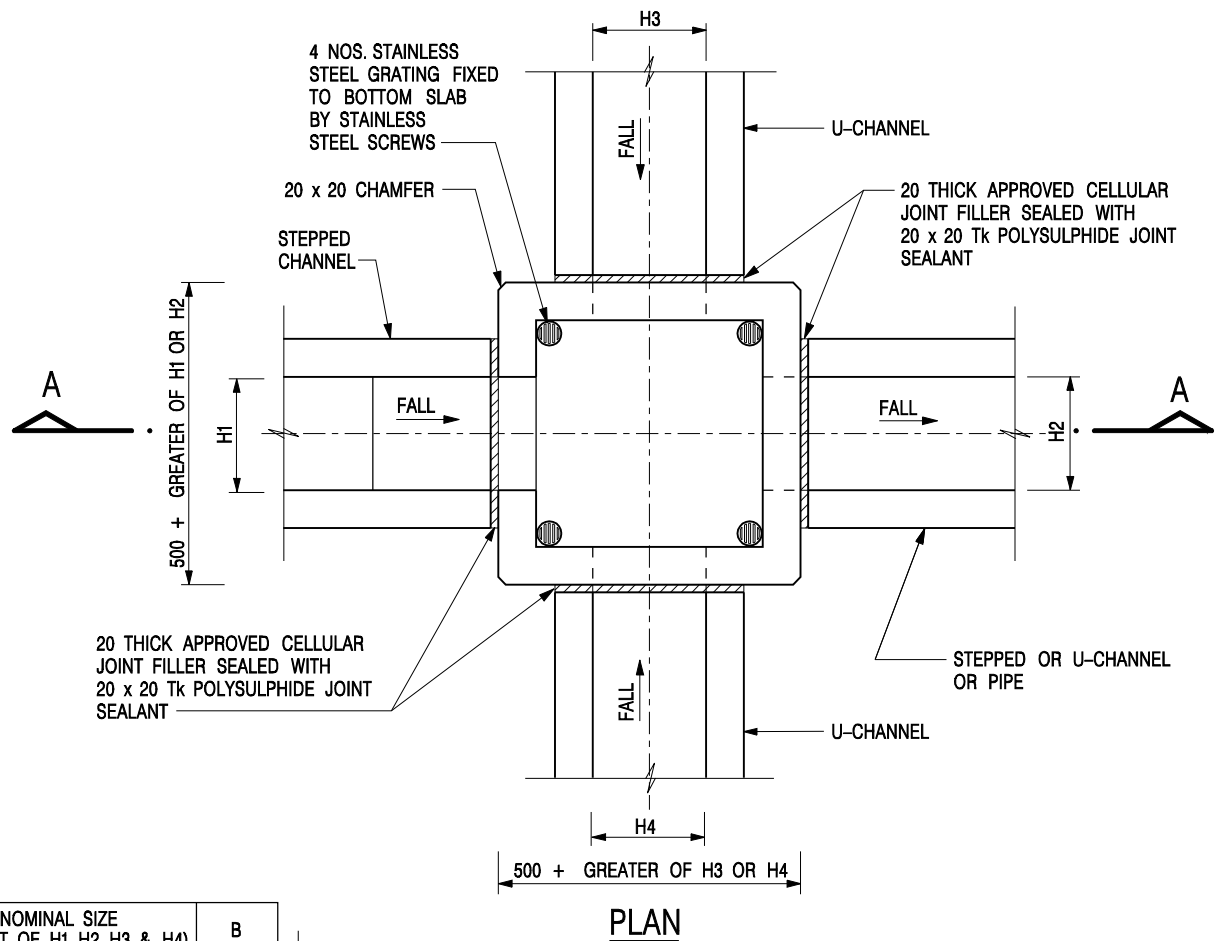
CONNECTION DETAILS

FOR CP1 , CP3 - CP9

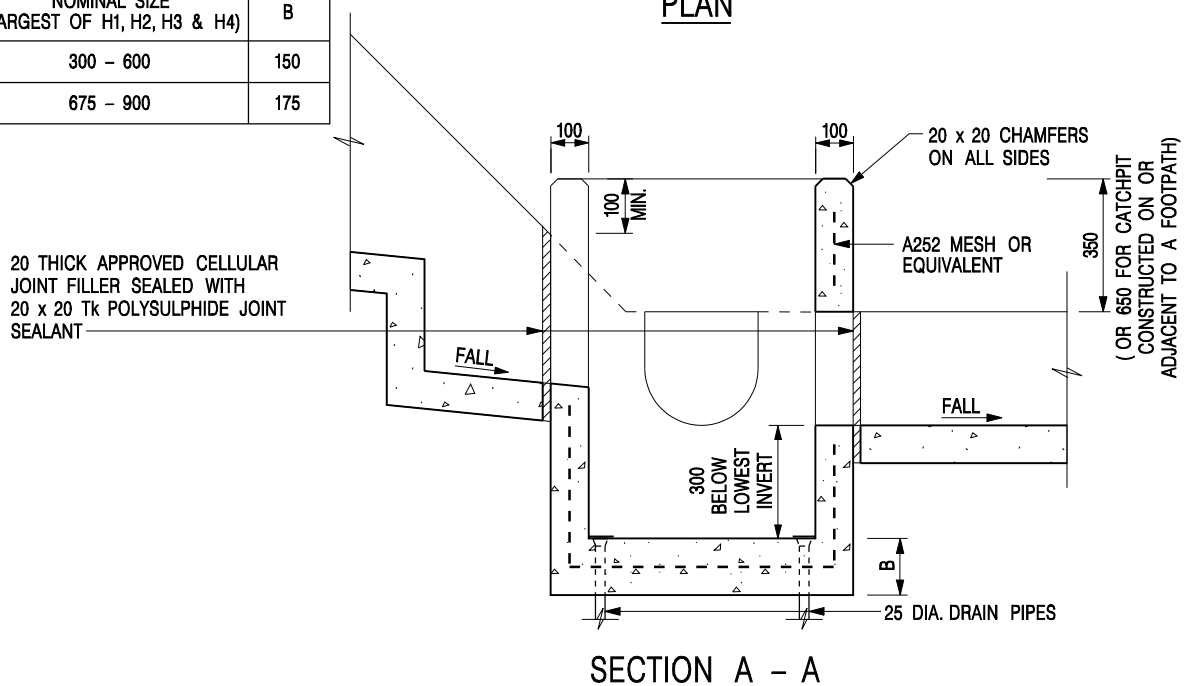


FOR CP2





NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4)	B
300 - 600	150
675 - 900	175

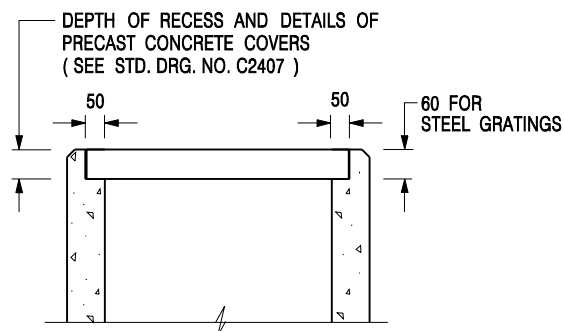


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 2 FOR OTHER NOTES.

CATCHPIT WITH TRAP
(SHEET 1 OF 2)

-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		SCALE 1 : 20	
		DATE JAN 1991	
		DRAWING NO. C2406 /1	



ALTERNATIVE TOP SECTION FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. UNLESS REQUESTED BY THE MAINTENANCE PARTY AND AS DIRECTED BY THE ENGINEER, CATCHPIT WITH TRAP IS NORMALLY NOT PREFERRED DUE TO PONDING PROBLEM.
7. UPON THE REQUEST FROM MAINTENANCE PARTY, DRAIN PIPES AT CATCHPIT BASE CAN BE USED BUT THIS IS FOR CATCHPITS LOCATED AT SLOPE TOE ONLY AND AS DIRECTED BY THE ENGINEER.
8. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAIL 'A' ON STD. DRG. NO. C2405) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
9. IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'G' ON STD. DRG. NO. C2405; EXCEPT ON THE UPSLOPE SIDE) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
10. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS (SEE DSD STD. DRG. NO. DS1043) AT 300 c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
11. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'F' ON STD. DRG. NO. C2405.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

**CATCHPIT WITH TRAP
(SHEET 2 OF 2)**



**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DATE JAN 1991

DRAWING NO.

C2406 /2

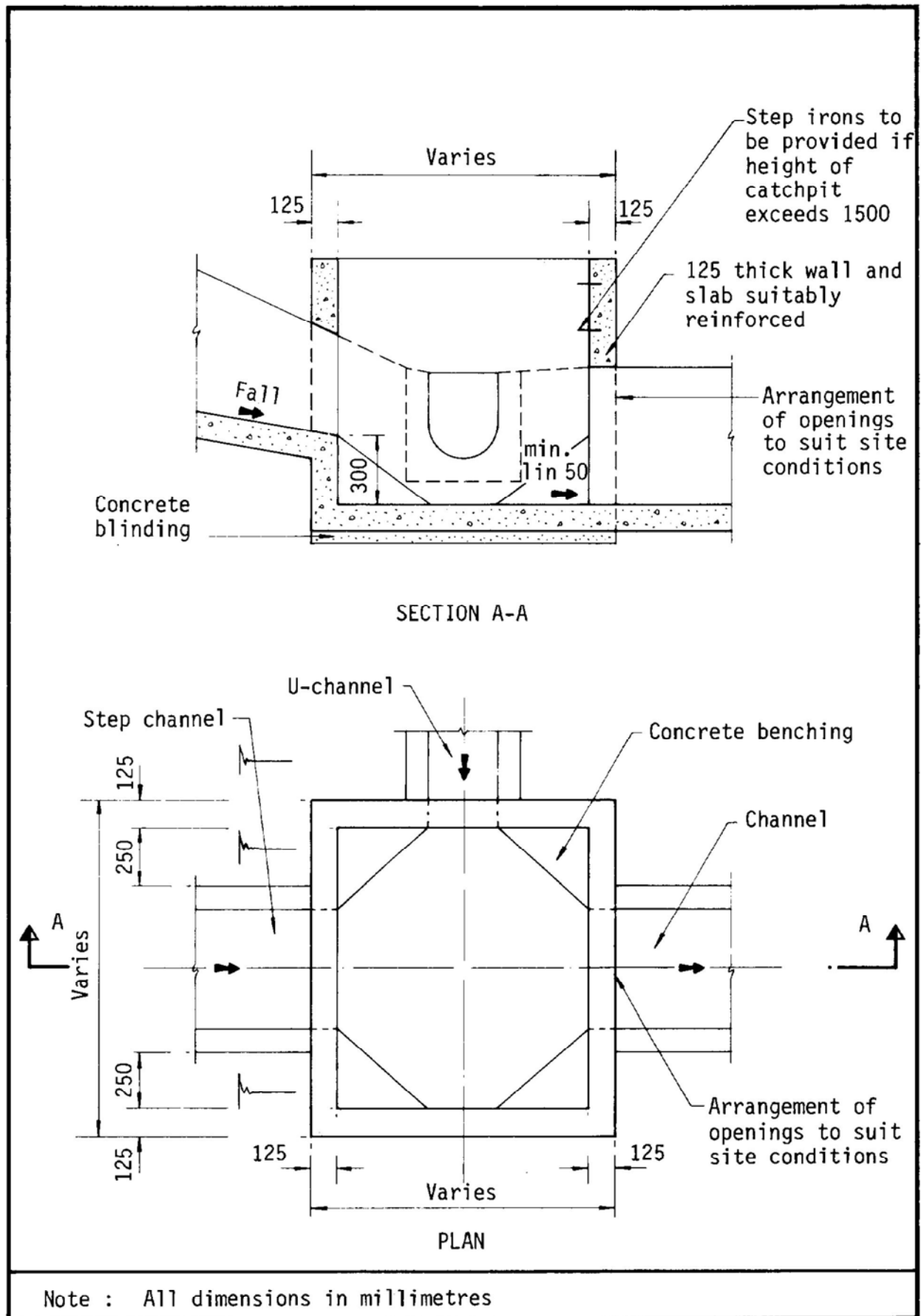
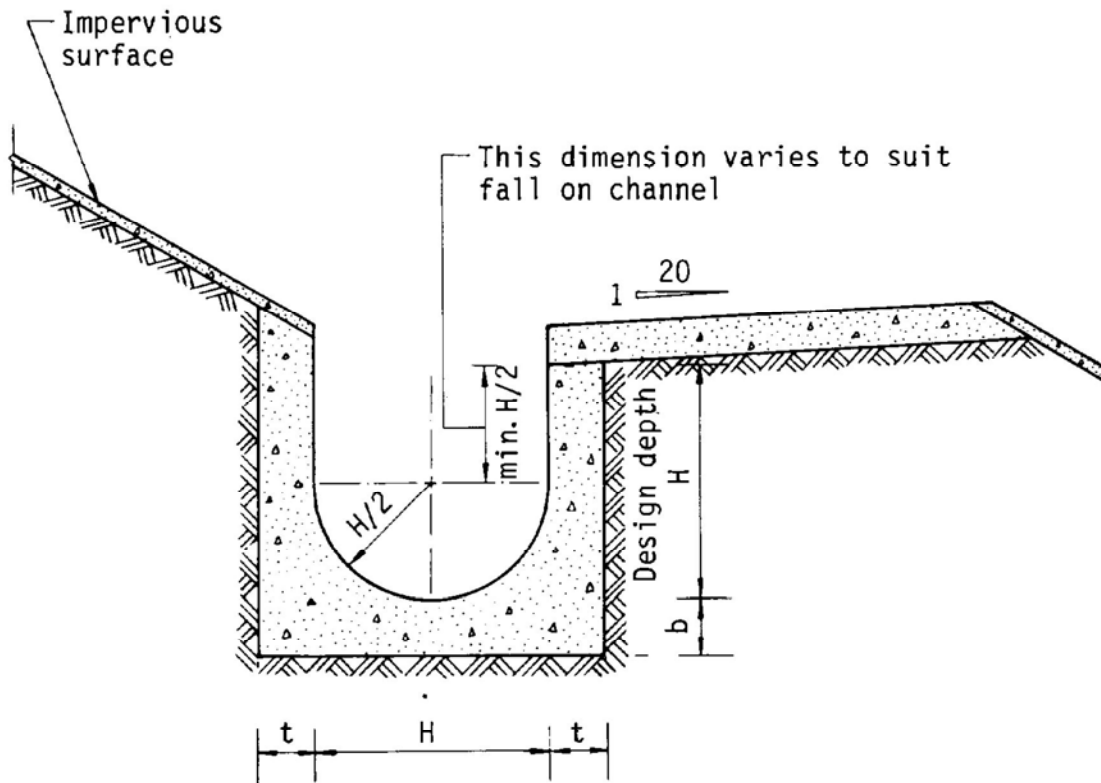


Figure 8.10 - Typical Details of Catchpits



Dimensions of U - channel

Nominal size of channel H (mm)	Thickness t (mm)	Thickness b (mm)
225 to 600	150	150
675 to 1200	175	225

Figure 8.11 - Typical U-channel Details

DEVELOPMENT PARAMETERS

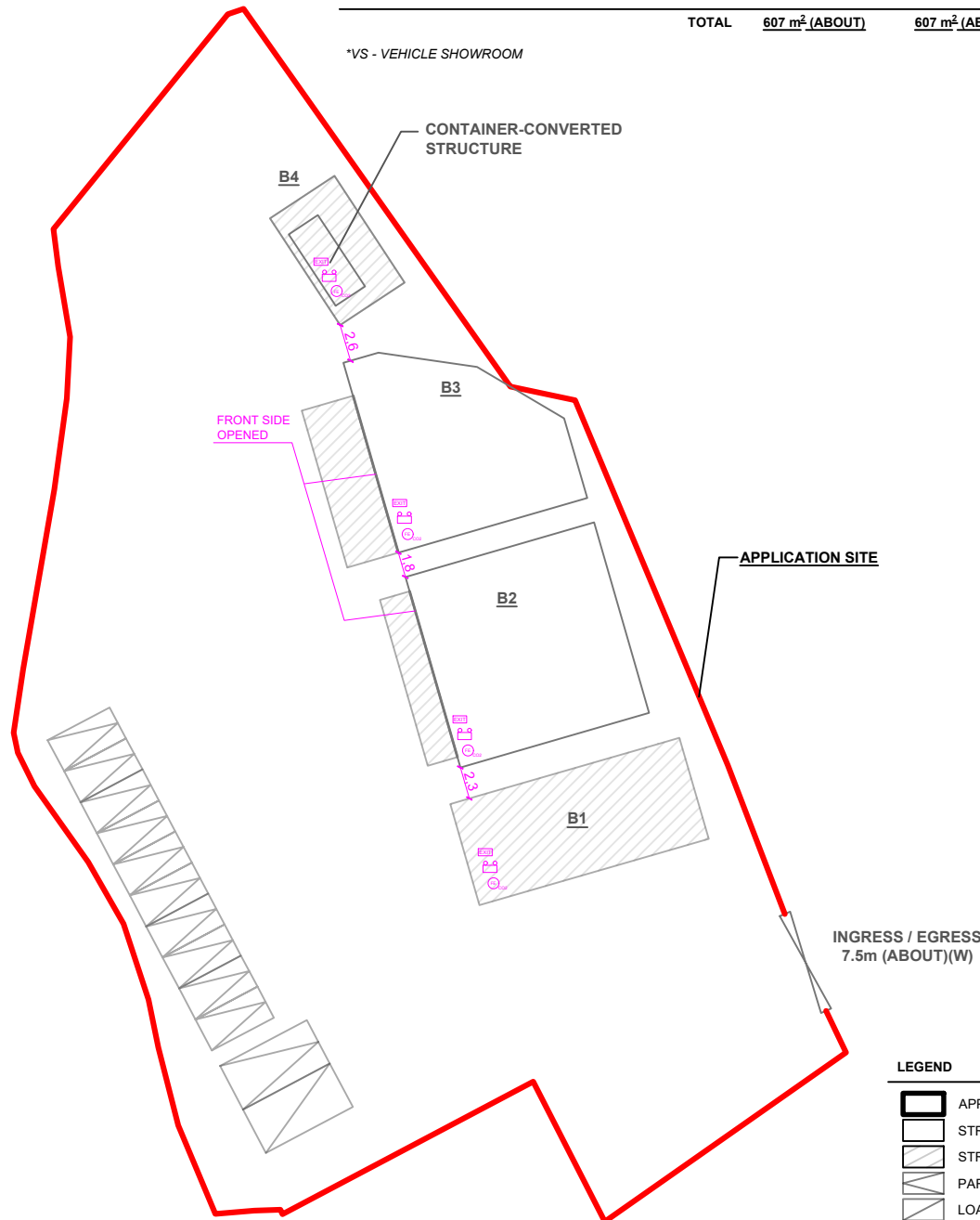
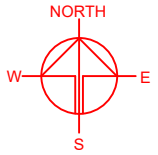
APPLICATION SITE AREA	: 3,009 m ²	(ABOUT)
COVERED AREA	: 607 m ²	(ABOUT)
UNCOVERED AREA	: 2,402 m ²	(ABOUT)
PLOT RATIO	: 0.2	(ABOUT)
SITE COVERAGE	: 20 %	(ABOUT)
NO. OF STRUCTURE	: 4	
DOMESTIC GFA	: N/A	
NON-DOMESTIC GFA	: 607 m ²	(ABOUT)
BUILDING HEIGHT	: 4 - 7.5 m	(ABOUT)
NO. OF STOREY	: 1	

PARKING AND LOADING / UNLOADING PROVISIONS

NO. OF PRIVATE CAR	
PARKING SPACE	: 10
DIMENSION OF PARKING SPACE	: 5 m (L) X 2.5 m (W)
NO. OF LIGHT GOODS VEHICLE SPACE	: 1
DIMENSION OF PARKING SPACE	: 7 m (L) X 3.5m (W)
NO. OF L/U/L SPACE FOR LIGHT GOODS VEHICLE	: 1
DIMENSION OF L/U/L SPACE	: 7 m (L) X 3.5m (W)

STRUCTURE	USE	COVERED AREA	GFA	BUILDING HEIGHT
B1	SHOP AND SERVICES (VS*)	128 m ² (ABOUT)	128 m ² (ABOUT)	7.5 m (ABOUT)(1-STOREY)
B2	SHOP AND SERVICES (VS*) AND OFFICE	225 m ² (ABOUT)	225 m ² (ABOUT)	7.5 m (ABOUT)(1-STOREY)
B3	SHOP AND SERVICES (VS*) AND OFFICE	204 m ² (ABOUT)	204m ² (ABOUT)	7.5 m (ABOUT)(1-STOREY)
B4	WASHROOM AND RAIN SHELTER	50 m ² (ABOUT)	50 m ² (ABOUT)	4 m (ABOUT)(1-STOREY)
TOTAL		607 m ² (ABOUT)	607 m ² (ABOUT)	

*VS - VEHICLE SHOWROOM



FIRE SERVICE INSTALLATIONS

EXIT	4 x EXIT SIGN
EMERGENCY LIGHT	4 x EMERGENCY LIGHT
FE CO2	4 x 4.5 KG GAS-TYPE FIRE EXTINGUISHER

FS NOTES:

- SUFFICIENT EMERGENCY LIGHTING SHALL BE PROVIDED THROUGHOUT THE ENTIRE BUILDING IN ACCORDANCE WITH BS5266-1:2016 AND BS EN1838:2013 AND THE FSD CL NO. 4/2021.
- SUFFICIENT DIRECTIONAL AND EXIT SIGN SHALL BE PROVIDED IN ACCORDANCE WITH BS5266: PART 1 AND FSD CIRCULAR LETTER 5/2008.
- PORTABLE HAND-OPERATED APPROVED APPLIANCE SHALL BE PROVIDED AS REQUIRED BY OCCUPANCY.
- ACCESS IS PROVIDED FOR EMERGENCY VEHICLE TO REACH 30m OF ALL PART OF STRUCTURES.

LEGEND

	APPLICATION SITE
	STRUCTURE (PARTIALLY ENCLOSED)
	STRUCTURE (CANOPY)
	PARKING SPACE
	LOADING / UNLOADING SPACE
	INGRESS / EGRESS

PLANNING CONSULTANT



PROJECT

PROPOSED TEMPORARY SHOP AND SERVICES (VEHICLE SHOWROOM) FOR A PERIOD OF 3 YEARS

SITE LOCATION

VARIOUS LOTS IN D.D. 106, KAM SHEUNG ROAD, YUEN LONG, NEW TERRITORIES

SCALE

1 : 500 @ A4

DRAWN BY OL DATE 12.9.2023

REVISED BY DATE

APPROVED BY DATE

DWG. TITLE

FSIs PROPOSAL

DWG NO. APPENDIX II VER. 001